1615. FTI's calculations were flawed due to their use of an overstated multiple of about 6.98 for the comparable companies analysis, and 6.83 for the comparative transactions. This stands in stark contrast to the 2.3 multiple that Renaissance Capital used during Project Zenith on 27 September 2008, or the 2.99 that Renaissance Capital described on 31 October 2008 to represent the effects of the financial crisis. (RPHB 1 ¶ 1029).

3. The Tribunal

1616. As mentioned above in this Award, for each of its damage calculations, the Tribunal has to take into account that, above in this Award, it came to the conclusion that the correct valuation date for the calculation of damages in this case is 30 April 2009. Contrary to that finding, the Parties have primarily relied on a different valuation date for their respective calculations of damages, i.e. Claimants on 14 October 2008, Respondent on 21 July 2010. Therefore, first, the Tribunal has to examine whether the Parties' arguments regarding the calculation of damages can still be applied to the evaluation date found to be applicable by the Tribunal.

1617. The Parties agree that the DCF methodology is an appropriate method of calculation. The Tribunal agrees as well, as this method has been used in many comparable cases and decisions of other Tribunals. This Tribunal sees no reason not to apply it here. The Tribunal now turns to the issues of application of that method disputed between the Parties and their experts.

1618. After evaluation of the timeline of events summarized above in the chapter on causation, the Tribunal accepts Claimants' argument that Respondent's conduct, which was found above to be a breach of the ECT, including the liquidity shortage insofar as it was also caused by Respondent, forced Claimants to reduce development efforts at Borankol and Tolkyn fields and that, in particular, this caused Claimants to decide not to drill or recomplete 13 wells at Borankol and Tolkyn in 2009 – 2010.

1619. In this context, the Tribunal considers that Claimants have provided sufficient proof for three kinds of damages: (1) KPM and TNG lost revenue that they would have earned from their planned production; (2) the gap in the development efforts depressed the production curve at Tolkyn and Borankol more than it would have been, had Claimants been able to develop the fields without Respondent's breaching conduct, and (3) Claimants were unable to sufficiently respond to the watering issues at the Tolkyn field.

1620. Regarding valuation, as mentioned above, most of Respondent's arguments and their experts' calculations rely on the unacceptable valuation date 21 July 2010 and, therefore, cannot correctly be used for a calculation of the value of the investment at the correct valuation date before Respondent's breaching conduct had their impact on the value of the investment.

1621. Insofar as Respondent refers to an earlier valuation date, the Tribunal is not persuaded by Respondent's argument (RPHB 2 p.17) that relies on the report of its experts, Deloitte GmbH, that financial difficulties of KPM and TNG even before

October 2008 were causes. The Tribunal finds no convincing evidence that the above damages would have occurred absent Respondent's interference.

1622. In particular, before Respondent's interference, it could be expected that export of gas would be possible. The CAC Pipeline – a direct export route – is proximate to the Tolkyn field. At the time, Respondent was forecasting both an expansion of total gas production from 33.7 Bcm^3 in 2008 to 61.5 Bcm^3 by 2015, with a concomitant export volume expansion from 6.2 Bcm in 2008 to 12.9 Bcm^3 in 2015. Claimants' right to export gas is relevant to TNG's and its prospective purchaser's reasonable expectations as of 14 October 2008. The Tripartite Agreement confirms that TNG would be able to export gas. As Respondent itself rightly points out, the Tripartite Agreement represented a bargain – if TNG were to deliver gas to a strategic project, TNG would have the opportunity to sell gas. KMG executed the 17 November 2008 Agreement, giving its clear indication that gas exports could be presumed to be available to a prospective purchaser upon entry into negotiations with KMG, regardless of the KazAzot fertilizer project. The Tribunal is not persuaded by Respondent's argument that an Agreement it effectively executed itself for TNG gas exports and export pricing is no evidence of the right, expectation, and ability to export gas. The non-implemantation of the Agreement was part of and due to the Respondent's conduct found to be in breach of the ECT. The same is true for Respondent's argument that there would have been be a sharp decline in oil production beginning in 2009, brought about by the end of the contract with TNG's biggest customer, Kemikal. As suggested by Respondent itself, Kemikal stopped payments on Claimants' products because of liquidity and insolvency issues, but, as also discussed earlier in this Award, this discontinuance of payments was caused by Respondent's own breaching actions.

1623. Regarding the prices that could reasonably be expected, the Tribunal considers that Claimants have not fulfilled their burden of proof for the price of USD 180 they allege. Claimants instructed Miller Lents for the 2009 Report, which is closest to the valuation date accepted by this Tribunal, to apply a base price of USD 2.00 starting from the year 2009, which translates into about USD 70 per 1000m. (Miller Lents Report 2009 Attachment 1 Exhibit 349). This price of USD 70 is also the export price GasTradeInternational LLP received. (R-III ¶ 364). The Tribunal, therefore, considers that a price of USD 70 is appropriate for its calculation of damages.

1624. Regarding the resulting calculation of damages, the Parties have relied on the various expert reports provided to them and at various times. For the reasons given above, this Tribunal can only rely on those of these reports that use a valuation date of or close to 30 April 2009. In this context, the Tribunal considers that, rather than making an attempt to replace calculations of such expert reports by its own calculations, it is more appropriate to compare these reports and, if one is considered sufficiently convincing, to rely on that report. As Claimants have the burden of proof for the damages they allege, first the expert reports submitted from Claimants' side are considered.

1625. Of these, the Tribunal considers that the Ryder Scott reports on reserves estimates are convincing in their approach and results. However, based on these reserves estimates, the Tribunal finds that the FTI calculations provided by Claimants are less convincing and are considerably overstated for the reasons provided in more

detail by Respondent (RPHB 1 sections E to H, particularly H.II) and do not sufficiently fulfill Claimants' burden of proof. On the other hand, since in fact damages have been caused, the Tribunal considers that their calculation can be based on the alternative damage calculations conceded by Respondent, if its own valuation date is not accepted, for the valuation date of 14 October 2008 (RPHB 1 §§ 1027 *et seq.*) by referring to Deloitte's comparable transactions analysis, also based on the Ryder Scott Reports, leading to a combined asset value of USD 277.8 million.

1626. This is, therefore, the value that the Tribunal accepts as the correct damages.

L.V. Quantum Related to Contract 302 Properties

1. Arguments by Claimants

1627. Kazakhstan interfered with the exploration of the Contract 302 area. When TNG informed MEMR on 10 October 2008 that it no longer wished to enter into the appraisal phase but instead wanted a two-year extension on the exploration contract, TNG explained that it based that decision on the belief that the Contract 302 area had significant potential in deep-lying raw reservoirs and that TNG desired to more fully explore it. Mr. Lungu confirmed at the Hearing on Quantum that this referred to the Interoil Reef. The 14 October 2008 extension request and proposed work program indicated this intent and showed a planned drilling depth of 6000m and a second ultra-deep well on the subsalt horizon. While TNG could have penetrated the Interoil Reef structure by deepening the Munaibay-1 well rather than drilling a second exploration well, the work program could have been amended later to include more wells, like the second ultra-deep well, the Munaibay No. 3. The 3D seismic data showed that the Munaibay-1 well was in a good position to explore the Interoil Reef, although it lay somewhat deeper than the originally planned depth (6750m per Ryder Scott, 6300m per GCA). TNG had the capacity to explore the Contract 302 area, including the Interoil Reef – it only stopped drilling at 4700m because it encountered pressures that required a heavier rig. Claimants acquired a rig with a depth capacity of 7000m in Georgia and it was ready for transport in January 2009. Claimants declined to move the rig to Kazakhstan after the State commenced its harassment campaign, opting instead to resolve disputes with the MEMR before prudently continuing investment in the Contract 302 area. Kazakhstan's harassment campaign and ultimate refusal to formally extend Contract 302 prevented further exploration work on the area. (CPHB 2 ¶¶ 228 – 232). Mr. Chagnoux's testimony demonstrated that Kazakhstan interfered with Claimants' sale efforts by preventing them from proving resources in the Interoil Reef structure. (CPHB ¶¶ 393 – 394).

1628. But for Kazakhstan's harassment campaign, TNG would have penetrated the Interoil Reef before Contract 302 was set to expire on 30 March 2009. As Mr. Romanosov testified, it would reasonably take six months to drill one well into the Interoil Reef structure. (CPHB 1 ¶¶ 369 – 377).

1629. In its First Post-Hearing Brief, Claimants valued the Contract 302 properties as follows (CPHB 1 ¶ 557):

Investment Cost (excluding Munaibay Oil)	**US $31,330,000**
Prospective Value	**US $1,636,900,000**
Munaibay Oil Prospective Value	**(US $138,883,000)**
Prospective Value (Other Than Munaibay Oil)	**US $1,498,017,000**

1630. Regarding the Munaibay Oil claim, Claimants seek an award of USD 96,808,000, based on the DCF calculations performed by FTI, which relied on the geological analysis of Ryder Scott. It is undisputed that the DCF method is appropriate for valuing this asset. (CPHB 1 ¶¶ 524 – 527).

1631. Claimants' claim for the undrilled Contract 302 properties (excluding Munaibay Oil) is based on (1) their out-of-pocket investment costs, plus (2) a portion of the prospective value they could have realized if Respondent had not denied them the opportunity to make a commercial success of the project. This is not a claim for lost profits. FTI conducted the appropriate DCF calculation, which included updates and adjustments to the crude oil and condensate sales mix and liquids prices, transportation expenses effecting its liquid price assumptions, and infrastructure CAPEX. This DCF calculation showed the unrisked prospective value of the Contract 302 properties as USD 1.58 (C-III ¶ 78 (stating LPG Plant rather than Contract 302); C-III ¶ 61).

1632. To assess the Munaibay Oil, Ryder Scott analyzed the available seismic data and performed a thorough independent analysis to project a total recovery of 53.285 MBbls of oil and a need for a total of 75 development wells and one exploration well. This stands in stark contrast to GCA's "*finger-in-the-wind*" methodology, which drastically changed between the first and second reports and resulted in a development plan that (1) needed more wells for less oil and (2) increased the project CAPEX to USD 828 million and total OPEX to USD 188.5 million, thereby summarily wiping out the USD 68 million that Deloitte TCF had originally attributed to Munaibay Oil based on GCA's first report. GCA does not specifically state its reasons for drastically changing its analysis. Additionally, GCA compounded its errors by baselessly front-loading the development costs while delaying the assumed production and revenues. (CPHB 1 ¶¶ 478 – 484).

1633. Respondent's *de minimis* USD 68 million is wholly inappropriate. It recognizes only the value in the Munaibay Main gas resources and ignores most of the Contract 302 properties, including the Munaibay North, Bahyt, and Interoil Reef resource areas. That these properties should have no value is belied by the fact that Respondent has entertained bids for the Contract 302 properties, among others, after seizing them. (C-III ¶¶ 61 – 62).

1634. Deloitte's calculations use the ECOS, GCOS, and Risked Capital values supplied by the GCA, which provided no explanation for how GCA derived the ECOS

factors. Nevertheless, FTI – using these same values – made its own calculation of the value of the Munaibay Main oil, and arrived at USD 153 million. (C-III ¶ 63).

1635. The GCOS is whether a well will produce a sustained flow of hydrocarbons. There can only be one GCOS for a project. The GCOS, according to GCA, is 10%. This is reasonable and not particularly low for a prospect of this size. GCA and Ryder Scott differ primarily in their estimations of the size of the reservoir. By examining the horizons around the Interoil Reef structure, Ryder Scott was able to provide an image of the reef with a high degree of confidence. GCA, on the other hand, had to force or "*ghost*" the analysis. (CPHB 2 ¶¶ 382 – 385).

1636. GCA assumes a protracted and unreasonable exploration schedule that could not be accomplished by the exploration deadline of March 2011. GCA also assumes that additional 3D seismic would be required to assess the prospect before drilling. Additional 3D seismic is, however, unnecessary. While additional 3D seismic may be helpful to determine whether there is a trap, that could be better tested by drilling, as a prudent operator would. As Ryder Scott concludes, assuming that TNG had been able to use the deep drilling rig that Claimants acquired in 2008, there were no safety or engineering obstacles to drilling an exploratory well in the Interoil Reef Structure. (CPHB 1 ¶¶ 485 – 486).

1637. Although Claimants spent USD 43 million exploring the Contract 302 property, this work was truncated by the State, making it difficult express the values with certainty. Nevertheless, and as Respondent is aware, prior to the seizure, "*Claimants had already successfully test drilled the Tabyl and Munaibay resource areas, conducted seismic work in the Tabyl West, Munaibay North, Bahyt, and Interoil Carboniferous Reef resource areas, and commenced a test well in the Bahyt resource area that has log data to approximately 3950 meters. Furthermore, the Tabyl West and Munaibay North resource areas are immediately proximate to the already successfully drilled Tabyl Main and Munaibay Main resource areas, which, as explained in the geology report (Exhibit 4) accompanying Ryder Scott's First Report, significantly increases their geological chance of success.*" (C-III ¶ 56).

1638. Although the valuation of the Contract 302 properties presents a greater challenge than the Tolkyn and Borankol fields, this is due to Respondent's wrongdoing. The benefit of the doubt belongs to Claimants as the victims and not to Respondent as the wrong-doer. Respondent continues to have full possession of the areas in question and "*should not be permitted to sit on these Contract 302 Properties without paying for them until the Tribunal renders an award that minimizes their value, and then prove by development the actual value of the bargain that it illegally acquired.*" *(C-III ¶ 57).*

1639. Where it can be proven that the claimant has suffered a loss and the respondent has committed a legal wrong causing that loss, the respondent is not entitled to invoke burden of proof as to the amount of compensation for such loss to the extent that it would defeat the claimant's claim for compensation. Rather, in such a situation, the claimant need only provide a basis upon which the Tribunal can, with reasonable confidence, estimate the extent of the loss. (C-III ¶ 59). Respondent has conceded that there was at least a loss of USD 68 million in relation to the

Contract 302 properties. As a loss has been conceded, only the quantum of that loss remains to be determined. (C-111 ¶ 60).

1640. Respondent's objection to the economic feasibility of the project is the potential for H2S contamination. GCA and Deloitte unreasonably assume a 100% chance of significant H2S contamination, despite having no knowledge of whether that gas is present. It is more reasonable to assume that the gas is not present, as the reason that TNG did not drill the exploration will that would have demonstrated the quality of the gas is Kazakhstan's illegal conduct. The infrastructure cost attributable to H2S contamination accounts for nearly half of GCA's estimated USD 2 billion CAPEX. This is problematic because there is no geological basis for GCA's opinion that H2S is present. GCA bases those assumptions on the Tengiz and Kashgan fields, which are 45 and 145 km away from the Interoil Reef, respectively. There is no reason to believe that H2S generating source rocks are present in the Interoil Reef structure. Second, the comparison to the Tengiz and Kashagan fields is inapposite, since those have very different fluid characteristics than the Interoil Reef. The Tolkyn field is likely the closest analog for estimating the composition of the Interoil Reef gas, which is what Ryder Scott used. (CPHB 1 ¶¶ 485 – 490, 556; CPHB 2 ¶ 385).

1641. Respondent has prevented Claimants from drilling the necessary exploration wells that would establish the extent of damages in the undrilled Contract 302 area. Thus, at the outset, Respondent should be precluded from arguing whether H2S contamination would be an issue, since Respondent prevented the drilling. Holding Claimants to a standard of reasonable certainty would be unfair, and international law gives the Tribunal to award damages that Claimants cannot establish with certainty. Claimants and FTI have never attempted to mislead the Tribunal about the certainty of their damages, and have clearly stated that their prospective valuation for the Contract 302 properties is an unrisked valuation, and Respondent's comments to the contrary are mere bluster. (CPHB 1 ¶¶ 528 – 533).

1642. Regarding Respondent's criticisms for well and infrastructure costs for the Contract 302 properties, FTI explained that it based its cost estimates for the Contract 302 properties on information provided by Claimants and discussed with Ryder Scott and confirmed against Claimants' historical experience. For the future, FTI forecasted well costs for deeper wells based on the same. (CPHB 2 ¶¶ 352 – 353).

1643. Finally, although Respondent made a number of misstatements and manipulations to support its argument that the RBS valuation corroborates Deloitte's valuation, the RBS valuation corroborates the FTI valuation. RBS did not value the Contract 302 properties – it did not, as Respondent argues, assign a zero value to the properties. KMG EP did not value the Contract 302 properties because, due to Respondent's wrongful action, Claimants could not provide any exploration data for Contract 302 to KMG EP. (CPHB 2 ¶ 362).

1644. Tribunals, most prominently the *Sapphire International v. NIOC* but also *AIG Capital Partners, Inc. and CJSC Tema Real Estate Co. v. Kazakhstan*, *SPP v. Egypt*, *Lemire v. Ukraine*, and *SOABI v. Senegal*, have awarded damages for the concept of loss of opportunity, even where damages cannot be proven with reasonable certainty. It has been recognized that it is exceptionally rare that lost

profits or opportunity can be precisely calculable. It is, therefore, appropriate to calculate these on the basis of a hypothetical maximum loss. Respondent's attempts to distinguish *Sapphire* are meaningless – that tribunal awarded out-of-pocket expenses, plus a portion of the amount that the investor could have earned based on the investor's estimate of best-case-scenario income. In *Sapphire*, unlike here, the claimant had performed no drilling or seismic work. This Tribunal could use *Sapphire* as a precedential guide and find that there is certainly enough evidence to determine the existence and extent of damage. In *AIG*, the tribunal awarded the 30% return that Claimants expected to earn on the full USD 16.3 million, less interest of 6% on the USD 12.74 million that those claimants never actually invested. The tribunals in *AIG* and *Gemplus* also rejected the DCF method, since the investment was an income generating activity. (C-I ¶¶ 424 – 429, C-III ¶ 50, CPHB 1 ¶¶ 534 – 536, 539 – 548).

1645. That the *Sapphire* decision was expressly decided according to the tribunal's *ex aequo et bono* powers simply means that it was a matter of discretion. The *Gemplus and Talsud v. Mexico* tribunal confirmed that arbitrators have the discretion to award damages for loss of opportunity, even without reference to *ex aequo et bono* powers. *Gemplus* also observed that the concept of damages for loss of chance/opportunity is recognized in many national legal systems (CPHB 1 ¶¶ 543 – 548).

1646. The only case that Kazakhstan cites for the rejection of the concept of damages for loss of opportunity is the inapposite *Chevron v. Ecuador*. There, the respondent argued that the award had to be reduced by the likelihood of the claimant prevailing on the court cases underlying the claim. Although that tribunal noted that the loss of opportunity doctrine does not have wide acceptance across legal systems, it observed that it exists in exceptional circumstances where such harm would be difficult to quantify, which was not the situation in that case. Indeed, the *Chevron v. Ecuador* and *Lemire v. Ukraine* cases show that the loss of opportunity doctrine exists for those situations where the claimant cannot show that its likelihood of success is greater than 50% - if it were greater than that, Claimants would be able to recover the full amount of lost profits without discounting for likelihood of success. Finally, even the scholar cited by Kazakhstan, Prof. Marboe, concludes that there are circumstances for which an award of damages for loss of opportunity is appropriate. (CPHB 1 ¶¶ 549 – 552).

1647. Applying the law on loss of opportunity to the Contract 302 prospect, there is ample evidence that the Contract 302 properties held substantial opportunity for large fields of commercially exploitable oil and gas. The only reason that Claimants cannot further prove this is because of Kazakhstan's unlawful actions. The *Sapphire*, *AIG Capital*, and *SPP* tribunals awarded their respective claimants their out-of-pocket expenses, plus an amount to compensate the potential upside of the opportunity. Here, Claimants invested USD 31,330,000 in exploring and analyzing the Contract 302 property, excluding the investment in the Munaibay-1 well. The amount USD 1,498,017,000 represents the middle case of the potential net income that would have been earned from those areas, absent Kazakhstan's actions. (CPHB 1 ¶¶ 553 – 555).

1648. Considering Respondent's criticism of the valuation of the Interoil Reef resource area, this area unsurprisingly holds the most potential of the Contract 302 resource

area, as well as higher risk. This area must, however, be considered valuable in a damages award, given Respondent's interest in gaining cost-free control over it by any nefarious means possible. Claimants urge the Tribunal to value the property at its full, unrisked, middle range, Best Estimate value. (C-III ¶ 64).

2. Arguments by Respondent

1649. Claimants have suffered no damage with respect to any of the other discoveries or prospects in the Contract 302 area. All have negative net present values, and Deloitte's findings remain unchallenged. GCA has, however, made a slight revision to its calculation on the Munaibay East Oil discovery, and arrived at a net present value of USD -223.7 million. (RPHB 1 ¶¶ 809 – 811). Anatolie Stati provided dishonest testimony that inflated the results of the seismic survey of the supposed Interoil Reef structure from 270 km2 to 380 km2. He was also dishonest when he stated that Claimants had firmly decided to drill deeply throughout the alleged reef structure. Even if it had been possible, Claimants were physically unable to drill beyond a depth of 4700m, due to pressure in 2008. (RPHB 1 ¶ 113 – 114).

1650. Applying the oft-cited *Chorzów* principle of damage compensation, Claimants' case unravels. Under *Chorzów*, the only damage that could be compensated would be reliance damages. There is no international law or doctrine pursuant to which the breach of a promise to conclude a contract would result in damages. Even if there had been no breach of the alleged promise to extend the contract, Claimants still would not have had a claim to develop the Contract 302 area because the contract would simply have terminated on 30 March 2009. Claimants have always accepted that Respondent was not under an obligation to extend Contract 302. Since Claimants complain of a "*bad faith refusal*" to extend the contract, under international law, Claimants' damages are limited to Claimants' expenditure made in reliance on MEMR's alleged April 2009 promise to extend Contract 302. Since Claimants have neither alleged nor demonstrated any damage based on reliance, their damage claim for Contract 302 is zero. (R-III ¶ 48, 52 – 53; RPHB 2 ¶¶ 521, 550 – 556).

1651. Even if the Republic had extended the contract period to 30 March 2011, it is unlikely that Claimants could have discovered the alleged Interoil Reef, even with the alleged Munaibay-3 well. In the 2008 Due Diligence, it was TNG's position that the capital expenditure set out therein correctly reflected TNG's future intentions. Thus, they cannot now claim that they intended to do more than stated in the program, especially since it was TNG's usual practice to abide by their programs. Ultra-deep drilling was not part of the exploration program that Claimants submitted to the MEMR in April 2009. Importantly, this program was submitted after the 3D seismic survey on the Munaibay area had been completed. It was, therefore, clear that they did not see the Interoil Reef as a viable prospect at the time. (RPHB 2 ¶¶ 120 – 122).

1652. Under Claimants' new theory that, but for the alleged harassment campaign, TNG would have penetrated the Interoil Reef with the Munaibay-1 well before 30 March 2009, Claimants could argue that they are entitled to more than reliance damage. Factually, however, the 4700m deep Munaibay-1 well never could have reached

the at least 6000m deep Interoil Reef and this is uncontested between the experts. (R-III ¶¶ 50, 105 – 201; RPHB 2 ¶¶ 557 – 558, 638 – 646).

1653. Claimants attempt to create a claim for damages where none exists, casting their claim as one for "*loss of opportunity*" to develop the Contract 302 area. This claim is based on the prospective value of USD 1.45 billion does not correspond with Claimants' case on liability regarding that area. Claimants did not add the claim of loss of opportunity or out-of-pocket expenses until the Hearing on Quantum. (RPHB 1 ¶¶ 702 – 707; RPHB 2 ¶ 521).

1654. International law does not recognize a principle of loss of opportunity. The cases cited by Claimants, including *Gemplus v. Mexico*, *SPP v. Egypt*, *Sapphire International v. NOIC*, *AIG Capital Partners v. Kazakhstan*, and *SOABI v. Senegal* do not support Claimants' claim. For example, *Gemplus* and *SPP v. Egypt* are factually distinguishable because, unlike in the present case, they each involved enterprises that had already proven themselves to be profitable. The tribunal in *Gemplus* stated that, under international law, claimants bear the burden of proving loss and "*if that loss is found to be too uncertain or speculative or otherwise unproven, the Tribunal must reject these claims, even if liability is established against the Respondent.*" The *Sapphire* tribunal would have rejected Claimants' approach to its prospective damages, in that it awarded only 4.5% of the investor's total potential profit after taking all risks into account. This is in stark contrast to Claimants' claim for the unrisked prospective value of the Contract 302 property. The *Sapphire* tribunal also rejected the idea that all risks should be resolved against the Republic, as Claimants argue. *Sapphire* emphasized mutual reliance by investor and state on the probability of future profits, Respondent had not accumulated extensive documentation of the Contract 302 properties before it granted the exploration license to Claimants. Prior to this arbitration, neither the Republic nor KMG EP had valued the Contract 302 properties. In this regard, the minimum investment requirement under the working programme does not qualify as an indication of the Republic's reliance on the probability of discovering and commercially exploiting the Contract 302 properties, as each investor is required to undertake them. The *Sapphire* tribunal also had *ex aequo et bono* powers, which this Tribunal does not. In *AIG*, the Tribunal considered that "*the opportunity to make a commercial success*" qualified as an investment under the US/Kazakh BIT, without explanation. Lacking such explanation, it should not be used as a guide. This *SOABI* case is also in applicable, as it concerns the actual loss of an existing opportunity from an existing relationship, and not, as Claimants argue, with the non-granting of an opportunity to which Claimants were not entitled. Claimants' claim relates to what the *SOABI* tribunal would refer to as "*hypothetical damage, the occurrence of which is purely conjectural*" and cannot be awarded as compensation. (R-III ¶¶ 116 – 121; RPHB 2 ¶¶ 559 – 598).

1655. Under the international legal principle of *actori incumbit onus probandi*, the burden of proof lies with Claimants. They allege the entitlement to compensation and it is their burden to establish the existence and extent of that compensation, irrespective of whether the legal qualification of their claim is one for loss of opportunity or for loss of profits. This burden of proof is often why tribunals decline to award compensation for future profits in investment arbitration. (R-III ¶¶ 102 – 103; *see also* R-I ¶¶ 46.19 – 46.26).

1656. The investor must meet a high threshold to establish a claim for lost profits, especially due to the degree of economic, political, and social exposure of long-term investment projects. To meet this threshold, an investor must "*show that their project either has a track record of profitability rooted in a perennial history or operations, or has binding contractual revenue obligations in place which establish the expectation of profit at a certain level and over a given number of years.*" This is true even for projects in early stages. Claimants have neither alleged nor proven either element. (R-III ¶¶ 129 – 135; R-I ¶¶ 46.19 *et seq.*).

1657. One of the best-settled rules of the law of state responsibility, as confirmed in cases such as *Levitt v. Iran* and *Autopista Concesionada v. Venezuela*, is to deny reparation for speculative damages. Respondent rejects Claimants' speculative fall-back position on loss of profits. The testimony of Dr. Kim of KNOC established that exploration blocks cannot be valued due to their speculative character. (R-III ¶¶ 122 – 128; R-I ¶ 46.19 *et seq.*).

1658. Claimants' "*benefit of the doubt*" argument turns the facts on their head, and ignores the maximum 5% GCOS for the Interoil Reef and that, during the 11-year life of Contract 302, Claimants did not undertake to explore the Interoil Reef. Even if the Republic had extended Contract 302, Claimants had no plan to explore (and, hence, no reason to make a discovery in) the Interoil Reef Thus, even if the contract had expired in March 2011, no work would have been undertaken there. (R-I ¶¶ 52 *et seq.*; R-III ¶¶ 48, 54 – 138; RPHB 2 ¶ 521).

1659. Claimants are responsible for a substantial part of the uncertainty regarding the Interoil Reef. They also failed to take any action during the life of the contract to explore the reef. The 2D seismic was shot in 2000 and 2001. TNG did not even start drilling the Munaibay-1 well until February 2008. They would have needed 2.5 years to drill the exploration well. They introduced the information so late in the proceedings that a thorough analysis, which could have led to clearer results, was impossible. It was not until the Hearing on Quantum that Claimants suddenly remembered that they had conducted a 3D seismic study on Munaibay and that, accordingly, they (1) were ready to build an exploration well, (2) had acquired the deep drilling rig just for that purpose, and (3) were prepared to move everything to Kazakhstan in fall 2008. Even if these allegations were true, however, Claimants could never have declared a commercial discovery of the alleged Reef within the extended period to 30 March 2011. Claimants cannot disregard the working program that they submitted on 14 October 2008 which contained slower drilling times, nor should Claimants' inexperience in ultra-deep drilling be ignored. Claimants chose to drill before having acquired the 3D seismic. As was made clear at the final hearing, the Munaibay-1 well would not have reached the Interoil Reef. According to Mr. Nowicki, that well would have needed to be more than 6750m deep, whereas its target depth was only 6000m. Thus, it was never possible that Claimants could have penetrated the Interoil Reef with the Munaibay–1 well prior to the end of the contract term. They chose an inadequate drill that broke down at 4700m in the face of high, but predictable, pressure. Then, they commissioned a 3D seismic survey which did not even cover the complete reef. There is no evidence of the existence of the alleged Georgian replacement drill, the existence of which Respondent denies. There are holes in the story, such as the gap between why Claimants would wait until early 2009 to drill, why the alleged reef was not contained in the draft addendum to Contract 302 submitted at the end of April

2009, why the working program did not foresee further drilling of Munaibay-1 well, or why other Munaibay-2 drilling was only scheduled for 4700m. The speculations about the time necessary to drill such a well also ignore the challenges of drilling in an H2S rich environment, the necessary administrative procedures for such drilling, and their own inexperience. Claimants' contentions regarding interference with the exploration of Contract 302 properties are contradictory. In order to reach the Interoil Reef depth by the end of the contract term, Claimants would have needed to remove the old rig from the well, move the new rig to the well, assemble the new rig, and drill to the required depth – all in a period of three months. Without being able to prove that the alleged discovery was commercially exploitable, Claimants would not have been able to assert rights to it pursuant to Section 8 of Contract 302. Thus, they have only themselves to blame and cannot be granted the benefit of the doubt. (RPHB 1 ¶¶ 708 – 735; RPHB 2 ¶¶ 117 – 119, 123, 638 – 646).

1660. At the Hearing on Quantum, even Ascom's geologists demonstrated their disbelief that the Munaibay-1 well would have reached the Interoil Reef, even if drilled to 6000m. They believed that the top of the reef could start at 6500m and that the Munaibay-1 well would penetrate the structure between 6600m and 6700m. Ascom's geologists informed Claimants' counsel about this prior to the Hearing on Quantum, but they and Claimants' witnesses deliberately concealed the position of Ascom's geologists, thereby misleading the Tribunal and Respondent. But, GCA concurs with Ascom's geologists that the well would not have reached the structure, even if Claimants had overcome their technical challenges to resurrect the Munaibay-1 well that they were forced to abandon at 4700m. It is clear, however, that Claimants used inadequate equipment and got stuck 1300m prior to reaching what in all likelihood would have been a dry hole. (RPHB 1 ¶¶ 799 – 808).

1661. Mr. Cojin's testimony was often incorrect. He testified that Contract 302 expired in 2018, when everyone knew it expired in 2009. He described how TNG Drilled the Munaibay-2 well, but in truth, that well was never drilled. (RPHB 2 ¶¶ 24 – 25)

1662. Claimants' claim for out-of-pocket expenses has no legal basis in either Contract 302 or in international law. Since Claimants never declared a discovery, they were not entitled to reimbursement for exploration expenses under Section 8.9 of Contract 302 and they knew that they were not entitled to reimbursement prior to April. Additionally, contrary to Claimants' assertion, the *Gemplus* tribunal did not award any out-of-pocket expenses. While the *Sapphire* tribunal awarded out-of-pocket expenses, it provided no explanation for having done so, beyond that the expenses were incurred in performing the contract. Here, as indicated, no discovery was declared during the life of the contract, rendering *Sapphire* inapplicable. The *SPP v. Egypt* tribunal awarded out-of-pocket expenses since those could not be recouped with future profits, due to the breach. Here, however, even if the alleged breach had not occurred, Claimants would not have been able to recoup their out-of-pocket expenses. The *AIG v. Kazakhstan* tribunal, while awarding out-of-pocket expenses, failed to provide reasoning for that decision. (RPHB 2 ¶¶ 599 – 612).

1663. Claimants used Mr. Nowicki of Ryder Scott to introduce new evidence of 3D seismic data on the "*Interoil Reef.*" His statements were misleading because they insinuate that the 3D seismic data revealed slight modifications. Placing the 2D and 3D maps atop of one another, one sees that the 2D seismic data is at a different location than the 3D. It is apparent that the 3D data reveals an entirely new and different structure and was not a mere update. It also demonstrates that the old 2D data was of extremely poor quality, making any reliance on it suspect. The 3D data disproves the 2D based "*Reef*" interpretation in favor of the new 3D interpretation, , making the actual GCOS 0%. The 3D supersedes the 2D and replaces the earlier interpretation. Mr. Nowicki did not have sufficient time to do such an assessment, let alone to evaluate the 3D seismic data prior to testifying – he received the data less than one week before the Hearing. An assessment of 3D data requires months. Mr. Nowicki used the 3D data, presented in the "*Project Munaibay 3D Presentation*," which was prepared by Claimants, to arbitrarily increase the GCOS From 5% to 9%. It is clear that he simply presented the Claimants' assessment as his own, and this fundamentally undermines his credibility. In the new structure based on the 3D data, it is noted that the structure extends beyond the boundaries of the Contract 302 area and into the block of another subsoil user. This has substantial consequences for unitization, volumes, costs, and governmental approvals. Claimants' cost and development schedules need to be disregarded entirely. (RPHB 1 ¶¶ 521 – 529, 548; RPHB 2 ¶¶ 535 – 536, 544 – 548).

1664. Ryder Scott's interpretation of the "*Interoil Reef*" does not demonstrate closure, which is crucial to the assumption that there is a valid trap containing hydrocarbons. Without it, hydrocarbons could have migrated. Ryder Scott's reliance on a single 2D seismic line to suggest that there might be some indication of closure in the southwest of the structure is not credible. Ryder Scott testified that it never relied on the 2D line; GCA noted that the 2D line was poor and said nothing about the geological conditions of the surroundings. Mr. Nowicki's statement at the Hearing that "*in my mind, I know that there has to be more to that reef. It doesn't just end where the data ends*" is a demonstration of Ryder Scott's wishful thinking. Ryder Scott also attempted to avoid discussing faulting in the "*Interoil Reef*", which could make a trap invalid and enable hydrocarbons to migrate. GCA and Total E&P addressed the clearly visible and devastating faulting at the Interoil Reef interval. GCA has interpreted the data and found that the data does not show potential for further potential for hydrocarbons through a "*stratigraphic trap*". To the North and Southwest, the 3D seismic data is inconclusive. Total E&P reviewed the same 3D seismic data in 2009 and concluded that the roof does not close, meaning that there could not be a trap. (RPHB 1 ¶¶ 736 – 749; RPHB 2 ¶¶ 523 – 525, 532 – 533).

1665. Assuming for the sake of argument that there is a deep full scale closure and a large trap, Deloitte arrives at a negative net present value of USD – 89.4 million. This non-commerciality is the result of a comparatively high development costs and the length of development. The ECOS would remain unchanged for the model, but there is a change in the GCOS. The best ultimate recovery would amount to 58.5 Bcm^3, at a GCOS of 5%, due to the low probability of full closure and the likely lack of seal effectiveness. A full closure and a tight seal within the geological structure are important, because otherwise the oil could leak out, leaving a dry hole. There are several reasons to doubt the seal on the Interoil Reef, as there are several faults cut through the structure. This can destroy a seal and create

pathways along which hydrocarbons can migrate out of a trap, as they have in other parts of the alleged structure. Total E&P made the same observation when considering the property, and they observed seven faults above the reef structure. Where there is low seal effectiveness, Deloitte puts the unrisked net present value at USD -456 million. (RPHB 1 ¶¶ 780 – 798 R-III ¶¶ 86, 93 – 98 (net present value of -83.7 million)).

1666. In addition, the likely presence of H2S – which is confirmed by the Reef's location, Total E&P's analysis, and publications by Ryder Scott – greatly increases the necessary planning, drilling costs, drilling durations, and equipment costs and expenditures of the Interoil Reef. H2S is corrosive and toxic to humans and is associated with extended drill times. Mr. Romanosov's suggestion that treatment facilities for the Tolkyn field gas would be sufficient to handle the Interoil Reef is "*laughable*."(RPHB 1 ¶¶ 756 – 769).

1667. GCA evaluated the two "*Interoil Reef*" cases with different GCOS-es. GCA evaluated the "*Interoil Reef*" on the basis that 10% of the supposed gas stream will consist of H2S. Respondent's reliance on the Tengiz and Kashagan fields as analogs is appropriate because the Tengiz reservoirs and the "Interoil Reef" are roughly the same age. The Tolkyn field is millions of years younger. H2S is not a result of source rock contamination (necessary for Claimants' misinformed "*distance*" argument), but instead occurs at specific temperatures and pressures. Geographic vicinity plays only a marginal role – and in any event, the difference is only 11 km. (Tengiz is located 45 km away from the Interoil Reef, Tolkyn 34 km). Ryder Scott has admitted that there is a 50% chance of at least 1% H2S in the "*Interoil Reef*" gas and admits that that amount would require special treatment facilities. (RPHB 2 ¶¶ 614 – 621).

1668. Claimants argue that, if Tengiz and Kashagan are picked as analogs, then it is necessary to assume higher condensate yield. There is, however, no relationship between the presence of contaminates and the level of condensate yield. Condensate is created through a geological process, whereas contaminate levels depend on the reservoir itself. The thermochemical sulphate reduction is a chemical reaction that depends on reservoir temperature and not on source rock temperature. GCA has estimated that the depth of the reservoir and the geothermal gradient of that area indicates that a temperature of 160 – 180 C can be expected. This is the range at which thermochemical sulphate reduction occurs. Higher depths tend to mean less oil and condensate and more gas in a reservoir. In other evaluations, Ryder Scott has concluded that a contaminate level of 25% had to be expected in a gas stream from Type II prospects, like Tengiz and Kashagan. (RPHB 2 ¶¶ 622 – 631).

1669. The 3D seismic proves that the alleged Reef is non-commercial – the prospect is comparative small and has a high development cost and requires a long time for its development, due to the presence of significant quantities of H2S in the gas stream. In the best case scenario under GCA's interpretation, the ultimate recovery of gas amounts to 3.7 Bcm^3 and reaches a depth of 6150m. Compared to the Tolkyn field's peak performance of 2.37 Bcm^3, it is clear that the alleged reef does not provide for huge reserves of gas. (RPHB 1 ¶¶ 736 – 749). Ryder Scott's assumption about gas volumes, based on an unrealistic gas column of 2000m, is unrealistic. The largest gas column known to GCA is 1450m. It is apparent that

Ryder Scott's high case has never been observed and their low case has only been observed on 5% of all fields. Ryder Scott's maps also do not support the gas column estimates. (RPHB 2 ¶¶ 526 – 531).

1670. Claimants have ignored that the standard of sufficient probability would be applicable to a claim for lost opportunity. Applied here, Claimants would need to demonstrate a "*very strong chance*" that deposits of commercially workable oil exist in the concession area. Regarding the GCOS and ECOS, GCA estimates the GCOS of 10% of the Interoil Reef. This means that, in 90% of all cases, an operator will not find the structure as outlined. They estimate an ECOS of 50%, which is unchanged from the review of the 2D seismic data. These risks need to be accounted for, but even disregarding these, however, as Deloitte have calculated, the Interoil Reef has an unrisked net present value of USD – 249.3 million. (R-I ¶ 52; R-III ¶¶ 84 – 98; 113 – 115 (discussing 5% ECOS); RPHB 1 ¶¶ 777 – 779).

1671. FTI's drilling CAPEX estimates are so illogical that they have been empirically disproven by FTI. While FTI assumed responsibility for these flaws, they are not qualified to provide such estimates. At the Hearing, Mr. Rosen of FTI agreed that the deeper an operator drills, the higher the costs per meter will be. Claimants thereafter amended their well cost estimates to account for all instances of increasing costs per meter drilled, rather than decreasing costs per meter as previously stated and which Mr. Rosen had defended. The amendment shows that Claimants have admitted their mistake. Claimants' claim that an exploratory well to a depth of 4700m would cost USD 10 million is belied by FTI's own evidence, which calculated that the Munaibay-1 exploration well, which ultimately reached that same depth, cost USD 18 million. Regarding the non-drilling cost estimate and as confirmed at the hearing, FTI failed to provide any explanation for the infrastructure that they considered necessary for the development of the Contract 302 area. Mr. Rosen had no basic understanding of what was necessary to assess the costs of infrastructure. Instead, FTI simply adopted Claimants' assumptions in the cost estimates. At the Hearing on Quantum, Mr. Rosen of FTI conceded that FTI had applied incorrectly low administration costs for the Contract 302 area because FTI assumed that the Tolkyn and Contract 302 Area could operate jointly. In addition, FTI's valuation on gas pricing was based on the unsigned undated 2008 Agreement. FTI then applied this price to the Contract. 302 properties, even though §§ 2.3 and 3.1 of the Tripartite Agreement clearly state that it concerns only gas from Tolkyn. The new development schedule based on the 3D data can be criticized for the same reasons. (RPHB 1 ¶¶ 554 – 565, 581 – 587, 591 – 592; RPHB 2 ¶¶ 499 534; 537 - 543).

1672. FTI's update of their Contract 302 prospective valuation in the Third Report included an arbitrary rounding of the discount rate which inflated the valuation by USD 44 million. FTI understated the variable distribution costs by USD 9 million. And, by not incorporating an assumption for net working capital into the Contract 302 properties valuation, FTI inflated the valuation by USD 55 million. Accounting for the GCOS and ECOS as well, the value assumed by FTI would need to be reduced to USD 136. (RPHB 2 ¶¶ 459 – 460).

1673. FTI's costs for gas flowlines were understated by a factor of 20. They overlooked the need to construct an in-field facility to separate their gas and condensate from the Interoil Reef. They assumed that old, insufficient pipelines could be used and

thereby neglected to create data for a new pipeline. Costs for treatment facilities were also ignored, and it would be impossible for the resources from the Interoil Reef to be treated at the existing facility at Borankol. They also failed to provide facilities for the removal of H2S, and this would increase the cost by USD 200 million (assuming 1% H2S) or by USD 260 million (assuming 10% H2S). Finally it is unclear what is meant by FTI's term "*Changing the extraction system*." (RPHB 2 ¶¶ 542 – 543). FTI made no allowance for costs for the necessary facilities in their evaluation and this increases the damages claim. GCA estimates an infrastructure CAPEX of USD 459 to interpret the Interoil Reef. The alternative 5900m Reef that is not supported by 3D data requires a CAPEX of USD 2.35 billion. (RPHB 1 ¶¶ 770 – 773).

1674. Turning to witness credibility, Respondent argues that "*Claimants' costs and development schedule are untenable as a matter of substance, they are also non-credible since they are opaque, illogical and were apparently largely prepared by Claimants themselves rather than by Claimants' experts who lack the necessary expertise in these matters*." (RPHB 1 ¶ 547). In testimony, Ryder Scott was completely unaware of the regulatory requirements that were connected to the drilling schedules that formed the basis of the Ryder Scott valuation was outside of their expertise. Ryder Scott solved their knowledge problem by simply relying on Claimants' estimates and intentions, and then presenting them as Ryder Scott's own expert findings. In effect, Claimants have become their own experts. At the Hearing in May 2013, Claimants attempted to respond to Respondent's allegation. Ryder Scott does not claim authorship of Claimants' statement that "*25 wells are scheduled*" or that "*a two-rig schedule was implemented*." This can only mean that they were provided by Claimants. No response was given for FTI having hidden that it had taken over infrastructure cost estimates from Claimants. By contrast, GCA has the necessary experience to prepare reliable development schedules and cost estimates. (RPHB 1 ¶¶ 546 – 552; RPHB 2 ¶¶ 466 – 469).

1675. At the Final Hearing, Claimants argued that the fact that well costs were provided by Claimants was apparent from a footnote in the First FTI Report. The footnote referenced, "*We have discussed with Ryder Scott what a reasonable estimate for capital costs for wells drilled in the different depths/structures would be based on a review of Company's historical capital expenditure costs for wells with adjustments made for varying depths*," however, gives no such indication. It leads the reader to believe that a historical analysis was conducted. FTI did not even purport to do any analysis on whether the well costs provided by Claimants were reasonable. Their analysis has no credibility. (RPHB 2 ¶¶ 470 – 474).

1676. In response to Claimants' contention that GCA should have provided several different scenarios involving costs related to H2S, GCA explained that the mid-case assessment was sufficient. (RPHB 2 ¶ 634).

1677. FTI's calculations that are based on higher condensate yield are misleading. First, a production start in 2012 is not possible since additional research, including new 3D seismic, would need to be completed. The present research is very poor and do not enable the flanks of the Interoil Reef to be mapped with confidence. Even Ryder Scott agreed that the 3D survey was not sufficient to

define the structure. Additional seismic surveying would only add one year. GCA explains that assuming a production start prior to 2018 is improper. The prices that would be realizable in 2019 are not the same as would be realizable in 2012 – that ignores seven years of inflation. FTI also ignores increases in the costs of production, taxes, and ECOS and GCOS. Deloitte performed a proper analysis using FTI's assumed condensate yield and still come up with a negative value of the Interoil Reef. (RPHB 2 ¶¶ 632 – 637).

1678. GCA provided an outline FDP setting out the steps for the development of the Interoil Reef. According to this, and based on challenges outlined, production would begin in 2018. Claimants' experts, on the other hand, unrealistically assume that the first two production wells on the Interoil Reef would be drilled in 2009 and that production would start in 2010. This is even inconsistent with Claimants' production history. The wells in Tolkyn, for example, were drilled in 2001 but only started producing non-negligible volumes of gas in 2004. The assumption that they would have more success with a deeper well is nonsensical. (RPHB 1 ¶¶ 774 – 776).

1679. Claimants' Munaibay Oil claim is overstated by 63.8% (USD 37.7 million). While Claimants accuse GCA of manipulating its resource and capital expenditures estimates, this is incorrect and GCA has explained the reasons for changes to the estimates. Changes were based on a later analysis of the result of the drilling on age-equivalent reservoirs in Tolkyn field. As a result, there were even upward corrections on some wells. GCA provided Chrystal ball sheets, as well as cost estimates, showing the changes. The minor error in the phasing of capital expenditure on Munaibay was admitted by GCA and was corrected in GCA's Third Report. The value of the Munaibay discover remains negative, despite the change. (RPHB 2 ¶¶ 549, 647 – 651).

1680. The RBS valuation report conducted as part of the KMG EP Due Diligence in September 2009 contains no value for any of the Contract 302 properties and provides no support for their alleged USD 1.5 billion loss of opportunity. (RPHB 1 ¶¶ 986 – 989). In FTI's Additional Expert Report of 25 January 2013, Claimants grant the Tribunal the discretion to decide which part of the highly exaggerated prospective value of USD 1.448 billion to award as opportunity damage for the Contract 302 properties. (RPHB 1 ¶ 986).

1681. Respondent also explained that FTI improperly disregarded risk by virtue of its inappropriate "*prospective*" valuation method. Such a "*prospective*" value bears no relationship to what real investors in an open market would pay for an asset and should, therefore, play no role for valuation purposes. The Uniform Standards of Professional Appraisal Practice (USPAP) only uses the term "*prospective value*" when in reference to real property and personal property. There is no reason to apply it to an oil and gas development. Furthermore, as Deloitte have shown, the use of a prospective value does not support the complete disregard of risk, as suggested by FTI. (RPHB 1 ¶¶ 566 – 569).

1682. Other methodological flaws in FTI's analysis include that they incorrectly mixed the nominal and the real valuation approaches. As a result, they applied inflation twice, causing revenues to increase disproportionately and cash-flows to be overstated. When they conceded this error, it reduced the overall value estimate by

USD 379 million. When correcting this mistake, they applied a different inflation rate to their assumption – 1.61%, rather than 2.82%, which leads to lower nominal cost projections. While they based this change on an assumption that the new rate was "more appropriate", in reality, the change was untenable. The sole reason for the change was to limit the impact of the correction that was necessary. In addition, FTI's arbitrary rounding of their discount rate from 14.41% to 14% adds USD 49.3 million to Claimants' claim. (RPHB ¶¶ 570 – 577).

1683. One risk associated with investment projects in the early stage is the creditworthiness of the purchaser. Since Claimants have not named any purchaser who would take their gas from the Contract 302 properties, they have not, *a fortiori*, accounted for the risks associated with such a purchaser. Further, if the claimant cannot establish that there was a reasonable certainly of lost profits, it cannot determine with reasonable confidence what those lost profits would be. As a result, their claim must be dismissed. (R-III ¶¶ 136 – 138).

3. The Tribunal

1684. The timelines of events provided above in this Award show that TNG informed MEMR on 10 October 2008 that it no longer wished to enter into the appraisal phase but instead wanted a two-year extension on the exploration contract. The 14 October 2008 extension request and proposed work program indicated this intent and showed a planned drilling depth of 6000m and a second ultra-deep well on the subsalt horizon. From the evidence supplied, the Tribunal is satisfied that when TNG stopped drilling at 4700m because it encountered pressures that required a heavier rig, Claimants acquired a rig with a depth capacity of 7000m in Georgia and it was ready for transport in January 2009.

1685. Only after Respondent started its breaching and harassing conduct did Claimants decline to move the rig to Kazakhstan, opting instead to resolve disputes with the MEMR before prudently continuing investment in the Contract 302 area. Taking into account the Tribunal's considerations above in this Award regarding causation, the Tribunal accepts that Claimants could have reasonably expected the extension of the Contract under the usual professional relationship with the Respondent's institutions as it existed before 14 October 2008. Kazakhstan's refusal to formally extend Contract 302 prevented further exploration work on the area must be considered as part of, and caused by, the treatment which the Tribunal has found above to be in breach of the ECT.

1686. Regarding the damages caused, the Tribunal sees no difficulty in accepting that the Claimants' investment of out of pocket expenses of **USD 31,330,000** in exploring and analyzing the Contract 302 property, excluding the investment in the Munaibay-1 well, are indeed such damages due.

1687. As both Claimants and Respondent submit, the further damages claimed for lost profit or lost opportunity provide a much higher threshold for Claimants' burden of proof. This threshold is high both legally and factually. The Parties rely in some detail on the various earlier decisions of other tribunals dealing with this issue and take very different views on their interpretation and applicability for the case at hand.

1688. This Tribunal does not need to go into these legal issues because it considers that, in any event, Claimants have not been able to provide sufficient factual proof for the lost profits they claim. In this context, Respondent (R-III ¶¶ 129 *et seq.*) has rightly referred to the comments in Prof. Crawford's Commentaries on the ILC Articles on State Responsibility and to respective comments in earlier awards that the investor must meet a high standard of proof to establish a claim for lost profits, especially due to the degree of economic, political, and social exposure of long-term investment projects. To meet this standard, an investor must show that their project either has a track record of profitability rooted in a perennial history of operations, or has binding contractual revenue obligations in place that establish the expectation of profit at a certain level over a given number of years. This is true even for projects in early stages.

1689. In the view of this Tribunal, Claimants have not proven either element. The Tribunal does not agree with Claimants that, in this regard, the benefit of the doubt belongs to Claimants as the victims and not to Respondent as the wrong-doer. Rather, the burden of proof remains with Claimants. While it is true that no absolute certainty of proof can be required for such losses in the future, a high threshold of sufficient probability must be applied to a claim for lost opportunity.

1690. During the 11-year life of Contract 302, Claimants did not undertake to explore the Interoil Reef. The 2D seismic was shot in 2000 and 2001. TNG did not start drilling the Munaibay-1 well until February 2008. Claimants would have needed 2.5 years to drill the exploration well. Claimants have not proven that they could have declared a commercial discovery of the Interoil Reef within the extended period to 30 March 2011. The working program that Claimants submitted on 14 October 2008 contained slower drilling times. Claimants had no experience drilling ultra-deep wells. Claimants chose to drill before having acquired the 3D seismic and drilled a well that, admittedly, would not have been sufficient to reach the 6000m deep Interoil Reef. Ultra-deep drilling was not part of the exploration program that Claimants submitted to the MEMR in April 2009. They first chose an inadequate drill that broke down at 4700m in the face of high, but probably predictable, pressure and only then acquired the Georgian drill. As pointed out in some detail by Respondent (RPHB 1 ¶¶ 799 *et seq.*) and at the Hearing on Quantum, even Claimants' geologists were not sure that the Munaibay-1 well would have reached the Interoil Reef, even if drilled to 6000m.

1691. Assuming that Respondent had extended Contract 302, and that Contract 302 would have expired in March 2011, Claimants have not provided sufficient evidence that they would have realized the alleged lost profit or opportunity.

1692. Therefore, this Tribunal concludes that Claimants have not fulfilled their burden of proof in this regard.

L.VI. Quantum Related to LPG Plant

1. Arguments by Claimants

1693. Shortly after President Nazarbayev issued the investigation order, construction on the LPG Plant slowed. Mr. Broscaru's unrebutted testimony is that this was because non-Kazakh workers were unable to renew their work permits.

Construction was paused indefinitely in 2009 because (1) TNG's liquidity position was deteriorating, due in no small part to Kazakhstan causing Claimants to lose the Credit Suisse loan facility and causing Vitol – another investor – to draw down its revolving line of credit, and (2) it became too risky to invest additional capital on construction of the LPG Plant. These delays increased the ultimate cost of completing the LPG Plant by approximately USD 50 million (per GCA). But for Kazakhstan's actions, however, these delays would not have occurred and the LPG Plant would have gone online in June 2009. Kazakhstan's actions changed the investment environment such that it was too risky to invest additional capital in an asset that Kazakhstan could seize. As President Nazarbayev acknowledged on 19 November 2009, construction on the LPG Plant had halted as a result of inspections by law enforcement. This was also acknowledged in the MEMR report on its January 2010 inspections. When the Akim of the Mangystau Region offered a proposal for TNG to borrow funds from State agencies to complete the facilities, Anatolie Stati explained that the delays in the LPG Plant resulted from the State's actions, which precluded Claimants from raising or investing additional funds. The Akim then reported to the Prime Minister Massimov that the construction had stopped due to the financial and legal problems of the company and urged the Prime Minister to dismiss the legal actions so that construction might resume. (CPHB 1 ¶¶ 358 – 364; CPHB 2 ¶¶ 215 - 222).

1694. Claimants seek to recover their investment costs of USD 245 million and the lost opportunity since, but for Kazakhstan's actions, Claimants would have developed the LPG Plant and would have even been able to develop the evidence needed to establish the FMV of the plant. As the tribunals in Sapphire and Gemplus also agreed, the Respondent should not benefit from the evidentiary uncertainty that results from its own misconduct. (CPHB 1 ¶¶ 558 – 559). Claimants request that the Tribunal award damages for the LPG Plant that are equal to Claimants' investment in the plant, plus some of the prospective value that Claimants could have realized from processing the Contract 302 gas in the LPG Plant (CPHB 1 ¶ 580):

Investment Cost	**US $245,000,000**
Prospective Value	**US $329,077,000**
Prospective Value Above Cost	**US $84,077,000**

1695. Respondent's market value of the LPG Plant of – USD 89.9 million is incorrect. It completely and baselessly disregards the possibility of processing third party gas at the LPG Plant – an assumption not even adopted by KMG EP. The FMV is not an appropriate measure of an asset that Claimants were prevented from turning into a commercial success. Instead, the investment value, as held by the tribunals in *Metalclad v. Mexico*, *Vivendi v. Argentina*, and *Wena Hotels v. Egypt*, is the appropriate measure of damages for an asset that was not yet a going concern at the time of the taking. Those tribunals recognize that when a state's actions deprive an investor of the opportunity to earn a profit, the investor is entitled to receive a portion of that potential profit as compensation for that lost opportunity. (CPHB 2 ¶¶ 386 – 389).

1696. FTI's prospective DCF valuation of **USD 408.3 million** for the LPG Plant is a reasonable estimate of the value of the LPG Plant to Kazakhstan. The Tribunal should not take seriously any argument that salvage value is an appropriate award for a seized LPG Plant that Kazakhstan is on the verge of putting into operation at full capacity:

> *66. As a preliminary matter, Deloitte's assumption of salvage value is intrinsically an inappropriate premise. As of the appropriate October 14, 2008 valuation date, Claimants fully intended to finish construction of the LPG plant and put it into operation, and in connection with all of Claimants' efforts to sell the LPG Plant both before and after October 14, 2008, Claimants offered the Plant, and prospective purchasers bid on the Plant, not as scrap but as prospectively operational. This fact is clearly reflected in the indicative offers made by interested buyers in 2008, which valued the LPG Plant at US $150 million on average. Indeed, the offer made for the LPG Plant by KazMunaiGas at that time was US $199 million. While Claimants did not accept these offers because at the time they deemed them too low and did not feel that they would lead to a sale, the Tribunal should note that State-owned KazMunaiGas itself offered almost US $200 million for the Plant, more than six times the highest value assigned to the LPG Plant by Deloitte of US $32 million. Little more is needed to demonstrate that Deloitte's salvage value assumptions and calculations are worthless.*
>
> *67. Furthermore, current publicly available information indicates that Kazakhstan is in fact gearing up to finally open the LPG Plant in 2012. In a document entitled "List of Investment projects of the Mangistauskoi Region, which are being supervised in 2011," there is a specific reference to the LPG Plant under "Regional Projects". The project is identified as having a cost of US $315 million (47 billion Tenge), and it is expected to start up in the first half of 2012 with a capacity of 7 mcm of gas per day. It is clear that, with an identified cost of US $315 million, Kazakhstan has been in the process of spending additional capital to complete the LPG Plant since its seizure, and that consequently Kazakhstan does not view the Plant as scrap. Furthermore, Kazakhstan is training specialists for operation of the LPG Plant, a clear indication that Kazakhstan is going to complete the Plant and put it into operation. [...] (C-III ¶¶ 66 – 69).*

1697. FTI made its prospective DCF valuation under the conservative and reasonable assumption that only gas supplies from Tolkyn, Borankol, and the Contract 302 properties would be processed in the LPG Plant. When Claimants commenced the LPG Plant project, they believed that the Tolkyn field alone would produce sufficient gas for the LPG Plant to produce 7 mcm per day for several years. There were also plans to produce gas from the Contract 302 properties as production from Tolkyn declined. While the LPG Plant had the capability to process gas from third party sources, TNG always expected to use the LPG Plant to process its own gas supplies. (C-III ¶¶ 70 – 71).

1698. Respondent's objection to the FTI's prospective DCF valuation, namely that there would not be enough gas from Claimants' properties or from third parties to make it profitable, is inconsistent with Respondent's current plans for the LPG Plant. The viability of the LPG Plant does not hinge on the availability of gas from the

Tolkyn field or the Contract 302 properties. FTI did, however, create an unrisked NPV of the plant that assumed full production from Contract 302, due to uncertainty regarding the terms of third-party gas sources. With these adjustments, the prospective value from the LPG Plant is USD 408.3 million. (C-III ¶ 73 - 75, 77; CPHB 1 ¶ 568).

1699. At minimum, Claimants' recoverable investment value for the LPG Plant is USD 245 million. This amount includes the USD 37 million expenditures through May 2009 that Claimants would not have incurred had Claimants been able to sell the LPG Plant in October 2008. (C-III fn. 179).

1700. FTI based its assessment of the investment value of the LPG Plant on the book value of the LPG Plant as of 14 October 2008 as contained in TNG's Third Quarter financial statements, which were not prepared for litigation and were reviewed by KPMG. The Tristan Oil Annual Report for 2009 was used to reflect investments after 14 October 2008. By contrast, Mr. Wood effectively admitted that his cost estimates are simply a "*black box*", based on his experience. (CPHB 2 ¶¶ 354 – 355).

1701. In early submissions, FTI applied the "*book value*" for the LPG Plant as a proxy for FMV, because "*the value of the LPG Plant, assuming only the use of the Borankol and Tolkyn field volumes, is less than the book value of the assets which is the total incurred capital expenditures of the LPG as at the Valuation Date*." This value, **USD 208.5 million**, was very conservative and did not provide a value for Claimants' lost opportunity from to earn profits from the LPG Plant upon completion. (C-I ¶¶ 419 – 420).

1702. Kazakhstan asserts that damages should be reduced by the debts owed by KPM and TNG to Vitol under the COMSA prepayment terms and the LPG financing arrangements. Respondent's arguments that Claimants' damages must be reduced because Vitol was a fifty-fifty joint partner in the LPG Plant, and because of the debt owed by Montvale to Vitol under the COMSA prepayment arrangement, are legally and factually incorrect. First, Vitol never owned an equitable interest in the LPG Plant but rather promised to provide (but never provided) half of the financing for the construction of the LPG Plant in exchange for the right to market the off-take of the Plant and to receive a portion of the LPG Plant's profits. The Joint Operating Agreement with Vitol for the LPG Plant project addressed the rights of the parties upon termination, including for the event that Kazakhstan asserted rights to the LPG Plant. In that agreement, contrary to Kazakhstan's contention, the parties contemplated that all of Vitol's rights would transfer to Ascom upon termination and that Ascom would seek compensation from the Government in the event that the Government asserted ownership rights over the plant. This is an illustration of the necessity of the *Chorzów* and *Occidental v. Ecuador* principle not to reduce the damages by the amounts owed to third Parties. Vitol never had any ownership interest in that Plant and was never an "Investor" for purposes of the ECT. To the extent that Claimants owe contractual obligations to Vitol under the Joint Operating Agreement, that issue is not before this Tribunal. Accordingly, the Tribunal should not consider any such obligations, which are disputed, in calculating the amount of compensation due to Claimants for the assets that Kazakhstan wrongfully seized. (CPHB 1 ¶¶ 641 – 645).

1703. Under the intended financial structure for the LPG Plant, Claimants and Vitol had originally planned to finance the LPG Plant with a combination of USD 20 million equity contribution from Vitol and Ascom, each financing from KazCommerzBank. This intended financial structure, which in any event is irrelevant for purposes of quantum, never came to pass. Instead, Claimants retired all KazCommerzBank debt in 2007 and Vitol drew down its debt financing to USD 46 million in addition to the USD 20 million contribution. As a result, TNG financed all of the construction of the LPG Plant, apart from the USD 66 million provided by Vitol. The LPG Plant was not a "*black hole*" with ever increasing costs – the cost increases corresponded with observed increases in inflation and LPG product prices. (CPHB 1 ¶¶ 573 – 576).

1704. At the Hearing on Quantum, Mr. Rosen (FTI) explained how the investment cost basis is an appropriate standard of valuation for the LPG Plant. FTI assumes that the LPG is a "*going concern*" since it would have been completed and would have operated, absent Respondent's interference. While one would typically consider the cashflow basis to evaluate the value of a going concern, that information was lacking. Accordingly, Mr. Rosen looked to the cost basis or investment basis to determine the LPG Plant's value. (CPHB 1 ¶¶ 560 – 561).

1705. Kazakhstan's cost assumption of USD 100 million is a massive, USD 50 million overstatement of the costs required to complete the LPG Plant, as confirmed in GCA's testimony at the Hearing on Quantum. But for Respondent's actions, construction would not have stopped and it would have only cost USD 50 million to complete. (CPHB 1 ¶ 562).

1706. Kazakhstan assumes – contrary to the evidence – that the LPG Plant would have gone online first in mid-2011. Accordingly, it fails to account for two full years of production that would have been achieved, but for Kazakhstan's violations. Evidence regarding third party gas was also ignored by Deloitte. As explained at the Hearing on Quantum, although TNG expected to load the LPG Plant from its own gas, the LPG Plant could also be used to process gas from other producers. The Joint Operating Agreement for the operation of the LPG Plant between Ascom, Terra Raf, TNG, and Vitol confirms that the processing of third party gas was anticipated. The 2009 RBS Assessment also assumed that the LPG Plant would be loaded with third-party gas, based on discussions with KMG E&P. (CPHB 1 ¶¶ 563 – 567, 570).

1707. Deloitte disregards the possibility that TNG could have sold the Plant to a third party that had its own gas run through the plant. KMG E&P, for example, made an indicative offer of USD 199 million for the LPG Plant in September 2008, based on a mixed comparative value and cost approach – not a DCF analysis. KMG E&P's use of the cost basis to value the LPG Plant contradicts Kazakhstan's argument that the cost basis is an improper valuation method. The 2009 RBS Assessment valued the LPG at USD 86 million (base case) to USD 146 million (high case) and the Tribunal should agree that these are the absolute minimum amounts that the Tribunal should award for the LPG Plant. (CPHB 1 ¶¶ 569 – 572).

1708. Claimants explain that Mr. Chagnoux was not a credible witness. His explanation that he was dishonest in his bid of USD 100 million for the LPG Plant may be

attributed to hurt feelings that Claimants did not initially consider his offer to be good enough to move to Phase 2 of the sale process. On cross, he admitted to not being present at a March 2009 meeting about which he provided testimony. It also appeared that he and Total were interested in currying favor with Kazakhstan. (CPHB 1 ¶¶ 390 – 391).

1709. Respondent's allegations about delays in the construction of the LPG Plant are based on a draft business plan that indicated a target start date of October 2007. The planned launch, however, was Q2 2009. Even if there were a delay, however, it would not shorten the usable life of the plant. (CPHB 1 ¶¶ 577 – 578).

1710. In response to Respondent's allegation that the LPG Plant was speculative from the beginning, Claimants explain that "*Using the valuation metrics that Mr. Broscaru described in his witness statement, Deloitte attempts to create a cash flows and a valuation model that it concludes had a value of US $108.2 million. Deloitte, however, makes a fundamental error in its calculation. Mr. Broscaru stated that TNG expected the LPG Plant to generate US $1 billion in revenue and US $500 million in profit over 10 years. Deloitte, however, spreads those cash flows over 20 years, effectively cutting them in half. FTI has corrected Deloitte's error, and concludes that an accurate 'simplified model' results in a positive NPV of US $92 million.*" (CPHB 1 ¶ 579, partially quoted).

1711. The RBS valuation was based on (1) the 2009 reserve report prepared by Miller Lents; (2) detailed legal due diligence by Squire Sanders; (3) detailed financial, tax, and environmental due diligence by PWC; (4) discussions with management of KPM and TNG; and (5) "*valuation discussions with KMG EP.*" It was created as an independent valuation for the purpose of a potential transaction, not litigation. It concluded that, on 1 October 2009, the combined enterprise value of Tolkyn, Borankol, and the LPG Plant was USD 612 million in the Default-Base scenario, to USD 760 in the Special-Base scenario which assumed higher gas prices. This represents an alternative valuation which should establish a minimum value for these assets, if the Tribunal rejects the 14 October 2008 valuation date. The Tribunal should, however, draw the inference that it understates the value of these assets. (CPHB 1 ¶¶ 583 – 585).

2. Arguments by Respondent

1712. The LPG Plant is a failed project. Claimants have failed to prove either claim for USD 245 million or USD 408 million for the LPG Plant and they have failed to provide a salvage valuation for the LPG Plant. (R-III ¶¶ 163 – 164). Claimants initially intended to only invest USD 20 million into the project, but as alleged in its first post-hearing brief, expended USD 179 million – 800% of the anticipated amount. They expected it to be fully operational by the third quarter of 2007 but – almost two years after this projected operation date – the project remained unfinished, and Claimants abandoned it. Its value is zero. (R-III ¶¶ 139 – 140; R-I ¶ 53.3; RPHB 1 ¶¶ 812, 894; RPHB 2 ¶¶ 652, 657).

1713. It is unclear whether Claimants maintain their demand for lost opportunity to make a success of the LPG Plant. The termination of the construction of the LPG Plant, however, cannot be associated with any actions by the Republic. Mr. Broscaru received orders to stop construction due to TNG's cash constraints. Mr. Broscaru's

allegation that non-Kazakh workers were unable to renew their work permits in November/December 2008 (which is implausible and is denied) was first adopted in Claimants' First Post-Hearing Brief. Mr. Broscaru provided no substantiation of the claim that the work permits issue affected construction, nor was there a statement of what work could not be done since workers were unavailable. (RPHB 2 ¶¶ 688 – 697, 105 – 111).

1714. Claimants suggested that the Republic interfered by causing TNG's liquidity position to deteriorate, but this is incorrect – those developments related to the Credit Suisse loan and, as confirmed by the PwC Due Diligence Report, were outside of the Republic's influence. Similarly, since there was no harassment campaign, Claimants' assertion that the harassment campaigned made their decision to suspend construction be appropriate is empty. In testimony, it became obvious that either Anatolie Stati or Mr. Broscaru lied about the decision to "*postpone*" or to abandon the LPG Plant project. (RPHB 1 ¶ 115; RPBH 2 ¶¶ 108 - 109).

1715. At the Hearing on Quantum and in the Third Report, GCA explained the steps and costs that would be necessary to commission the LPG Plant, would amount to approximately USD 100 million, USD 32 million of which due to Claimants' "*mothballing*" the equipment. Claimants have not provided a credible cost estimate, and the Hearing on Quantum demonstrated that Ryder Scott had no expertise on capital expenditure. FTI, on the other hand, could not justify their assumption that USD 24.1 million would be necessary – FTI relied completely on information provided by TNG. In particular, FTI relied on the "*Tristan Oil Interim Financial Report For the Nine Months Ended September 30, 2008*", a document that was drafted in November 2008 but discusses the forward looking costs until June 2008. FTI errs in its costs assumptions:

> *921 FTI's approach becomes totally striking when looking at what happened to FTI's valuation in their second report. In their second report FTI applied a fair market value of the LPG Plant based on the allegation that TNG had not spent a total of USD 208.5 million as alleged in the first report but a total of USD 245 million. Applying the same logic that FTI had applied in their first report, they should have reassessed the costs for the completion of the plant and arrived at costs of USD 232.6 million as envisaged by TNG for the construction of the plant minus the USD 245 million actually spent to construct about 80-90% of the plant.*
>
> *922 Therefore, FTI in their second report should not have simply stuck to USD 24.1 million to finalise the construction as they did. Instead, FTI should have assumed that TNG would not need to pay USD 24.1 million to construct but rather TNG should be paid USD 12.4 million to construct the plant. This is obviously bogus, yet apparently good enough for FTI. (RPHB 1 ¶¶ 909 – 922, partially quoted; RPHB 2 ¶¶ 688 - 697).*

1716. Claimants sought to mislead potential investors, as well as the Tribunal, about the economic viability of the LPG Plant. Once Claimants' costs and recovery estimates were proven incorrect, Claimants sought to hide this information from the Tribunal and potential investors. At the Hearing, Mr. Lungu admitted to lying in ¶ 27 of his first witness statement. He also conceded that the construction of the LPG Plant had been a story of constant delay, exceeded budgets, and changing

assumptions about the availability of gas. This is obvious when considering the original business plan, which envisaged costs of USD 105 million – not USD 281 million. It assumed commission in the third quarter of 2007 – not in 2009, as written by Mr. Lungu. Mr. Lungu conceded these points in oral testimony. Claimants' statements that the document was a draft with no value were contradicted by the witness. The vendor due diligence report indicated that there had been no delays in construction of the LPG Plant and that it would be completed on time and within budget. In cross-examination, Mr. Lungu explained this to mean that there was no delay, so long as the plan was adjusted from time to time, so as to become the original plan. (RPHB 1 ¶¶ 813 – 846, 864 – 869; RPHB 2 ¶¶ 657 – 659). In the rebuttal, Claimants did not rebut any of the evidence regarding the failure of the LPG Plant. (RPHB 2 ¶¶ 653, 657 – 659).

1717. Claimants have withheld from the Tribunal that they actually assumed – in the PwC Due Diligence Report, that up to USD 60 million would be needed to complete the LPG Plant. In that Claimants have exceeded the projected costs for the LPG Plant by 250%, the estimate of USD 20 – 60 million could be adjusted to USD 40 - 150 million, which is in line with GCA's estimate. (RPHB 1 ¶¶ 925 – 928). Their assumption of costs of USD 60 million, the amount applied by RBS, given TNG's history of exceeding estimated costs, makes Respondent's assumption of USD 100 million more likely. Claimants have not provided proof or a position of costs for the completion of the LPG Plant. (RPHB 2 ¶ 688 – 692).

1718. Mr. Lungu tried to hide the LPG Plant cost explosion from the Tribunal and from its own auditors. FTI attempted to explain that the price increase for the LPG Plant could be explained by reference to Kazakh inflation, but this argument is seriously flawed. First, it is inconsistent with FTI's use of the 1.6% US inflation rate to forecast the costs of the LPG Plant construction. It disregards the initial USD 105 million estimate that was provide in the Ascom LPG Business Plan, allegedly prepared by Vitol. FTI disregards the ultimate of USD 281 provided in Mr. Broscaru's witness statement – oddly, because that estimate was provided to Mr. Broscaru by Mr. Lungu. In any event, the PwC Due Diligence Indicates that the USD 281 cost estimate was correct. As a result, FTI assumes a cost increase of 53.5% (from USD 151.5 million to USD 232.6 million) rather than in increase cannot be explained to the inflation development of 67.9% in 2007 and 2008 cited by FTI. (RPHB 2 ¶¶ 453 – 458).

1719. Deloitte has estimated that the unfinished LPG Plant has a negative enterprise value of **USD – 89.9 million**. They arrive at this using the DCF method, which RBS, Deloitte, and bidders in Project Zenith had no problem applying. Deloitte considered projections of future sales revenues and expenses, including the USD 100 million expenditure required to complete the LPG Plant. Deloitte derived the net cash flow over several years as the balance of revenues and expenses projected and arrived at a negative number. This indicates that alternate uses of the LPG Plant need to be considered. (R-III ¶¶ 145 – 147, 152; RPHB 1 ¶ 812; RPHB 2 ¶ 652, 672).

1720. Deloitte GmbH assumed a start-up date of 2011, which is consistent with the RBS valuation. Nevertheless, even taking account the processing of gas from June 2009 – June 2011, the value of the plant would still be negative. FTI's valuation of the

LPG Plant would only be 7% lower if gas production between 14 October 2008 and 21 July 2010 was disregarded. (RPHB 2 ¶¶ 698 – 699).

1721. Deloitte reaches this negative value because the LPG Plant could only be operated for four years, due to TNG's limited supply of gas. After four years, capacity utilization will fall below the minimum level required for technical operation and negative cash flows will be generated. Claimants were aware of this as of 2009 when, although the business plan was created under the assumption of the availability of 40.2 - 62.3 Bcm^3 to run the plan, the Miller Lents Report informed them that they only had 9.5 Bcm^3 – enough for 4 years. Claimants' valuation expert, Mr. Rosen, already conceded that the LPG Plant could not operate economically on the gas from Tolkyn and Borankol, alone. It would only be economically viable if Claimants' assumed gas volumes from the Contract 302 properties and gas from third parties would be available. No effort, however, was undertaken to test the viability of these assumptions or to see whether it would be possible to extract suitable gas from the CAC Pipeline. While KazTurkMunai was mentioned as a company that could deliver gas to the LPG Plant, no information about the amount of gas was provided. Ignoring the fact that the GCOS for Contract 302 was 5% and that they forwent exploring it, Claimants treated it as 100% for the purposes of assuming that it would supply gas to the LPG Plant. As for the so-called geographically proximate gas sources, Claimants and Mr. Broscaru failed to identify any specifically. All that Claimants have is the RBS Report that assumed gas from third parties could be processed in the Plant. (R-III ¶¶ 141 – 142, 146, 148, 165, 173; RPHB 1 ¶ 870 – 882; RPHB 2 ¶ 657, 700 – 705).

1722. Regarding gas from the Contract 302 property, even if Claimants had not foregone the opportunity to explore it, the Deloitte report confirms a maximum GCOS of 5% for the Interoil Reef, which combined with the ECOS, makes it commercially unexploitable. At the Hearing on Quantum, Claimants failed to show how the LPG Plant could be operated economically, but demonstrated why construction was a failure, in that it was supervised by incompetent personnel. Although he made several statements regarding the economic parameters of the project, in cross-examination, it became clear that Mr. Broscaru had no idea about the economics of an LPG Plant. He used numbers, like the alleged value of USD 450 million that he obtained from Mr. Lungu who, obviously, did not want to be scrutinized on these numbers and did not put them in his own statement. He was unable to support his other written statements during cross. He conceded that the Munaibay discovery could only support the plant for 6 months, and that the Tabyl discovery could only support it for three days and a few hours. It was obvious that the reference to Munaibay could not have included the Interoil Reef. Finally, the only possible conclusion that the Tribunal could draw from Mr. Broscaru's testimony that "*[his] action focused only on technical surveillance of the work and the facility*" is that the Tribunal should disregard every detail that does not only concern the technical details of the LPG Plant. Finally, the Tribunal should also note that Claimants' witness statements from Anatolie Stati and Mr. Broscaru regarding the LPG Plant are inconsistent. (RPHB 1 ¶¶ 847 – 863).

1723. The Claimants' witnesses, Mr. Lungu, Mr. Broscaru, and FTI provided incredible testimony regarding the LPG Plant. Mr. Lungu's testimony regarding the LPG Plant misrepresented all basic parameters of that project. Everyone except FTI agreed that Claimants should never have taken the decision to build the LPG Plant.

19 – 20. Mr. Broscaru, in cross examination, could not answer even basic questions about his witness statement entitled "*Design and economic rationale of the LPG Plant*" because he had received all of his information from Mr. Lungu and had simply written that into his statement. Apparently, Claimants sought to insulate Mr. Lungu from cross-examination regarding the financial aspects of the LPG Plant. FTI calculated that the assumed value of the LPG Plant of USD 450 million was overstated by up to USD 443 million. Corrected, and based on the assumptions set out in Mr. Broscaru's witness statement, FTI should have arrived at a negative value for the LPG Plant. (RPHB 2 ¶¶ 19 – 20, 26 – 28).

1724. With respect to the processing of gas volumes from the Borankol and Tolkyn fields, Claimants' valuation scenario concerning the LPG Plant is to determine the book value of the LPG Plant. Yet, Claimants instead apply a "*book value*" which is identical to the "*investment value*" – namely, the total capital invested in the LPG Plant. A hypothetical buyer will not be interested in how much cash was invested in the business, but only in the cash he or she would get out of the business in the future. Further, the "*investment value*" ignores developments after investment, such as inflation, deflation, and currency developments. Scholars have also confirmed that the investment value does not reflect its FMV, even for business valuation experts. Thus, it is not suitable as an indication for FMV in a treaty arbitration, either. (R-III ¶¶ 179 – 186). The investment value (USD 245) is irrelevant and, indeed, the investment value and the FMV are utterly disproportionate to each other. The investment itself was a black hole for Claimants' investments and, in the end, Claimants invested USD 245 million for the unfinished LPG Plant. The LPG Plant would have costs USD 269 – USD 345 million to finish – grossly higher than the USD 105 which they originally estimated. (R-III ¶¶ 174 – 178).

1725. The alleged USD 208.5 "*book value*" of the LPG Plant – defined as the investment value less accumulated depreciation – is, likewise, irrelevant. This method is not used for determining a FMV and scholars agree that it has no relationship to market values or to asset values. Rather, "*book value*" was created for accounting or tax evaluations. The vast majority of arbitral tribunals regard book value as an inappropriate basis for the calculation of compensation. (R-III ¶¶ 143 – 144, 187 – 195). In any event, Claimants failed to demonstrate that the necessary conditions – including a secured gas supply, an established market for LPG products, and a market for remaining dry gas – existed for the book value of the LPG Plant to be a valid proxy for FMV. (R-I ¶¶ 53.16 – 53.17).

1726. Claimants use the book value method because the FMV method leads to a lower compensation. (R-III ¶ 195). With adjustments like the "*impairment test*" or the "*mark-to-market process*", as required by international accounting standards, a book value can be made to reflect the actual FMV. FTI ignored the impairment of the LPG Plant mentioned in the Tristan Oil Annual Report for 2009, which would adjust the book value negatively. (R-III ¶¶ 196 – 199; RPHB 2 ¶ 706).

1727. The RBS valuation report conducted as part of the KMG EP Due Diligence in September 2009 and which Claimants consider to have been prepared by "*world class experts*" proves that Claimants' valuation of the LPG Plant, and other assets, are bogus. The RBS report estimates the value of the LPG Plant to be between USD 47 – 86 million, with a median of 67 million that is dependent on availability

of unsubstantiated third-party gas. This valuation disproves Claimants' exaggerated claims for the LPG Plant. The values that RBS attributed to the LPG Plant, even under the assumption that third party gas would be available, are nowhere near the costs that TNG incurred for constructing the plant, and are even further from FTI's "*prospective valuation*." (RPHB 1 ¶¶ 825 – 828, 986 – 987, 989).

1728. RBS, even when taking third party gas into account, only arrives at a value of negative USD 4 million to USD 67 million for the LPG Plant. This supports Respondent's view that Claimants' decision to build the LPG plant was fatally wrong. Applying RBS values, Claimants invested USD 245 million to create an asset that, in the best case scenario, had a value of only USD 67 million. They lose between USD 245 million and USD 178 million as a result of building the plant. (RPHB 2 ¶¶ 829 – 832).

1729. In the Hearing on Quantum, Mr. Rosen conceded that Claimants were seeking USD 87,077,000 in overcompensation for the FMV of the LPG Plant. Leaving aside his other errors, Mr. Rosen stated that FMV of the LPG Plant should be determined on a cost basis, and was, therefore, worth USD 245 million – not the USD 329 million that Claimants claim. Apparently, Claimants increase their FMV by adding an "*uplift*" for the processing of gas from the Contract No. 302 properties, which they assume will be available. This "*uplift*" factor is, in effect, double counted since it is already taken into consideration in the FMV. Respondent denies that an uplift would have occurred absent delays in construction. Due to the lack of demand for gas at the time, the Tolkyn production was severely curtailed and there would, as a result, have only been a very limited gas supply for the LPG Plant. (RPHB 1 ¶¶ 883 – 891; RPHB 2 ¶¶ 110).

1730. FTI's Mr. Rosen confirmed at the Hearing 2 that he determined the value of the LPG Plant on the cost basis because his assumption (based on Mr. Broscaru's witness statement and the assumption that Contract 302 and third party gas from the CAC Pipeline) that it was a going concern. The LPG Plant, however, was never a going concern – it would have been uncommercial to complete and operate the plant. All of Mr. Rosen's assumptions are unproven. There was no guarantee of gas from the Contract 302 properties. There was no guarantee of gas from the CAC Pipeline. Claimants, finally, have produced no evidence of their parties to supply gas to the LPG Plant. (RPHB 2 ¶¶ 678 – 687).

1731. Also, the cost basis is not an appropriate violation approach because prospective buyers consider the future income potential of an asset. The cost approach is not a suitable way to arrive at a FMV, even if the asset is not yet generating cash flows because it relies on the untenable assumption that the LPG Plant would be profitable. On top of that, the approach is illogical, awarding different damages based on the amount actually spent. Even the KMG EP, in Project Zenith, agreed that for the formation of a binding offer, the DCF method – and not a cost-based approach – would need to be applied. (RPHB 1 ¶¶ 897 – 906; RPHB 2 ¶¶ 672 - 677).

1732. Claimant's' "*prospective valuation*" of the LPG Plant has been tainted by their unrisked valuation of the Contract 302 properties. Thus, even Mr. Rosen's cost basis approach is based on a 2% chance that significant amounts of gas could be

economically produced from the supposed Interoil Reef. Any investor, however, would take the risks and the GCOS into account. (RPHB 1 ¶¶ 892 – 893).

1733. Mr. Broscaru makes the unsubstantiated assertion that the net present value of the LPG Plant would reach USD 450 million. FTI then used this number in their calculation to arrive on a value of USD 7 – 92 million, depending on the run time of the plant. Claimants instructed Mr. Broscaru to refuse to answer questions regarding these assumption. In any event, FTI admits that this is a gross miscalculation of at least USD 358 million, 38 pages later. In any event, even on their own assumptions, TNG should have arrived at a net present value of the LPG Plant of USD 51.2 million, even assuming a 20-year run-time. FTI made this error by understating the discount rate, disregarding administrative costs, and failing to consider tax – not to mention failing to consider the availability of third party gas. FTI desperately tries to assist Claimants by conveniently disregarding documents (Ascom LPG Business Plan) and by applying irrelevant US inflation (thereby driving capital expenditure down and increasing the prospective valuation) rather than Kazakh inflation. (RPHB 2 ¶¶ 661 – 671).

1734. Deloitte identified two additional methodological errors by FTI. These include that FTI used the same discount rate for the "*prospective*" valuation of the LPG Plant as for their other valuations, which was incorrect since FTI applied different tax rates to the LPG Plant. The applicable discount rate was, thus, understated by 1% and the prospective value of the LPG Plant was, therefore, overstated by USD 20.3 million. Costs were also underestimated and this resulted in an overstatement of value by USD 3.3 million. (RPHB 1 ¶ 580).

1735. Claimants' claim for a portion of the "*prospective value*" of the LPG Plant is bound to fail because it neglects even known certainties and risks (like the expiration of Contract. 302). While they based their initial prospective value on the assumption that gas from third parties and Contract 302 would be processed, they now provide the prospective value to compensation for the situation that the Interoil Reef may have been discovered and found to produce appropriate volumes of gas. FTI has adjusted their "*prospective value*" from USD 408 million, to USD 329 million, to USD 308.7. The absurdity of FTI's calculation is obvious when compared to the USD 67 million valuation that RBS arrived at – under the assumption that the LPG Plant would work at full capacity for 20 years. (RPHB 2 ¶¶ 707 – 713).

1736. Regarding the third party assessments of KPM and TNG's value, including the LPG Plant, the representative of KNOC, Total E&P, KMG EP and OMV have confirmed that their bids did not represent FMV. Instead, they were made to gain access to the data room and further investigation would be needed before arriving at FMV. As confirmed by Mr. Suleymenov's testimony at the Hearing on Quantum, their bids were made based on limited information and they were often made for strategic and not valuation driven reasons. (RPHB 1 ¶¶ 974 – 977). At Hearing on Quantum, Mr. Chagnoux explained that his bid on behalf of Total E&P was artificially high because Claimants' investment bank had conditioned access to the data room on higher bids. Mr. Chagnoux confirmed that he believed the LPG Plant to have a negative value. (RPHB 1 ¶¶ 200 – 202; 978 – 979).

1737. The Republic never had any intention of completing construction in the LPG Plant. Preservation work was initiated beginning in March 2009. Costs associated with

this preservation would need to be deducted from the USD 245 million allegedly spent until that time. As to the operation of the LPG Plant, since Claimants abandoned the plant, KMT (which subsequently assumed the trust management responsibilities of KMG NC) has been forced to employ guards to protect the Plant and re-employ minimal staff to avoid social tension. Claimants have given no explanation as to why the application at Exhibit C-583 in any way indicates that KMG is making plans for the future of the LPG Plant. (R-II ¶ 714; C-583 is undated). Turning to the "*List of Investment projects of the Mangistauskoi Region, which are being supervised in 2011*...", the content of that is not attributable to the Respondent as it did not arrange for such a document to be published. At best, it should be considered as mere promotional material. Contrary to Claimants' contention, the Republic is not training experts to run the LPG Plant. (R-III ¶¶ 203 – 207; RPHB 1 ¶¶ 895 – 896).

1738. Another relevant aspect, ignored by Claimants, is the Vitol Joint Venture Agreement. Under that Agreement, Claimants would not have kept 100% of the future profits allegedly arising from the operation of the unfinished LPG Plant. Respondent does not have the specifics of the Vitol Joint Venture, but many aspects were provided through Mr. Lungu's testimony. Respondent puts Claimants to proof that the proceeds they could have earned operating the LPG Plant under the Joint Venture Agreement are more than half of whichever asset value they are claiming. (R-III ¶¶ 208 – 211; RPHB 1 ¶¶ 907 – 908; RPHB 2 ¶ 729).

1739. The Republic denies Claimants' contentions regarding alleged decision by Vitol to retract its investment in the LPG Plant, which in any event would not be attributable to the Republic. (RPHB 2 ¶ 111).

1740. Vitol is also a factor in the costs analysis. Claimants have admitted that of the USD 245 million in damages for investment costs that they demand, at least USD 66 million were contributed by Vitol. TNG's alleged investment costs are, at best, therefore, USD 179 million. (RPHB 2 ¶¶ 279 – 270).

1741. At the most, the Tribunal could award not more than 50% of any of the assumed value to Claimants, if it were to assume liability and if it were to assume a positive value for the LPG Plant. Claimants, however, are not entitled to damages because the unfinished LPG Plant was never taken from Claimants – they abandoned it. The value of the LPG Plant is negative. What Claimants seek is compensation for the loss of the Plant. It is undisputed that Vitol, Ascom, TNG, and Terra Raf entered into a Joint Operating Agreement on 27 June 2006, pursuant to which the bulk of the profit of the LPG Plant would be generated by the Joint Venture Company – not TNG. Ascom would only own 50% of the shares in the company. If they now demand compensation for an alleged treaty breach, at most they can demand 50% of the asset value, since neither TNG nor Ascom would have received more than 50% of the profits of the LPG Plant. Accordingly, depending on how the Tribunal issues its award, whether based on the "*prospective value*", the "*cost basis valuation*", the RBS valuation, that amount would need to be halved. Anything more would be unjust enrichment. Claimants have failed to produce evidence of any "*obligations toward Vitol*" that would change this. (RPHB 2 ¶¶ 656, 714 – 728).